

Memorandum of Understanding between  
The United States Environmental Protection Agency  
and  
(Company Name)

## **I. Common Agreements and Principles**

A. This is a voluntary agreement between Programmable Thermostats ("EPA ENERGY STAR® Partner" or "Partner") and the United States Environmental Protection Agency (EPA), by which Programmable Thermostats joins the EPA ENERGY STAR Program. The terms of this MOU shall apply to programmable thermostats sold by Partner under its own brand name(s).

B. EPA ENERGY STAR Partner and EPA agree that the primary purpose of the EPA ENERGY STAR® Program is to promote the manufacturing and marketing of energy-efficient equipment, thereby potentially reducing combustion-related pollution.

C. EPA ENERGY STAR Partner and EPA agree that the use of energy-efficient equipment may also increase profits and competitiveness.

D. EPA ENERGY STAR Partner and EPA agree that the EPA ENERGY STAR Program may also improve or enhance equipment's useful lifetime, customer satisfaction, and overall product quality.

E. EPA ENERGY STAR Partner and EPA agree that publicizing the EPA ENERGY STAR Program is important to demonstrate the following: the concern of Partner for the environment, the vitality of the free enterprise system in reducing costs, and the capability of voluntary programs to achieve environmental goals.

F. EPA ENERGY STAR Partner and EPA agree that maintaining public confidence in the EPA ENERGY STAR Program is critical to achieving the shared goals of Partner and EPA.

G. EPA ENERGY STAR Partner and EPA agree that membership in the EPA ENERGY STAR Program is essential to the cooperative effort to achieve the shared goals stated above.

## **II. Definitions**

A. Programmable Thermostat: A device that enables the user to set one or more time periods each day when a comfort setpoint temperature is maintained and one or more time periods each day when an energy-saving setpoint temperature is maintained. This device enables the user to save energy because the heating and cooling equipment is not running needlessly at a comfort temperature setpoint 24 hours per day. A programmable thermostat may be capable of controlling one or more zones of a conditioned space.

B. Setpoint Temperature: The temperature setting in degrees Fahrenheit or degrees Celsius for any given time period.

C. Comfort Setpoint Temperature: The temperature setting in degrees Fahrenheit or degrees Celsius for the time period during which the building is expected to be occupied, e.g. the early morning and evening hours.

D. Comfort Time: The time period during which the conditioned space is expected to be occupied, e.g. the early morning and evening hours.

E. Energy-Saving Setpoint Temperature: The setpoint temperature for the energy-saving periods, usually specified for both the heating and cooling seasons.

1. Set-Back Temperature: The setpoint temperature for the energy-saving periods during the heating season, generally at night and during unoccupied hours. This is a lower setpoint temperature than the comfort setpoint temperature.

2. Set-Up Temperature: The setpoint temperature for the energy-saving periods during the cooling season, generally at night and during unoccupied hours. This is a higher setpoint temperature than the comfort setpoint temperature.

F. Cycle Rate: The number of times the heating or cooling unit goes on and off in a given hour. This is measured when the heating and air-conditioning equipment is operating at a 50 % load condition, as measured under the National Electrical Manufacturers Association (NEMA) DC-3 standard titled "Residential Controls-Electrical Wall-Mounted Room Thermostats".<sup>1</sup>

G. Recovery Systems:

1. Conventional Recovery: A feature of a programmable thermostat that activates the heating or cooling system at the comfort time set by the user.

2. Heat Pump Recovery: A feature of a programmable thermostat that allows the heat pump to recover gradually from an energy-saving setpoint temperature to a comfort setpoint temperature. The heat pump recovery feature is designed to minimize the use of auxiliary heat while also minimizing the on-time of the system.

3. Pre-Comfort Recovery: A feature of a programmable thermostat that allows the heating/cooling system to recover gradually from an energy-saving setpoint temperature to a comfort setpoint temperature. This feature provides comfort while minimizing the on-time of the system during the recovery period. If the pre-comfort recovery system is capable of minimizing the use of auxiliary heat, then it is identical to a heat pump recovery system.

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<sup>1</sup>National Electrical Manufacturers Association, 2101 L Street, N.W., Washington, D.C.  
20037

H. Hold Feature: This feature enables the user to override the programmable thermostat's program for a period of time, either specified or unlimited. A short-term hold may allow the user to skip to the next part of the program, and/or temporarily set the programmable thermostat to a different temperature until the next part of the program begins. A long-term hold may allow the user to set the programmable thermostat at a temperature for a fixed period of time, usually during a vacation.

### **III. Entry into Force and Duration**

A. This MOU enters into force when signed by both EPA and Partner.

B. Both parties agree that this agreement can be terminated by EPA ENERGY STAR Partner or EPA at any time, and for any reason, with no penalty. However, both parties agree that termination for noncompliance would only occur in accordance with the procedures of Section VII., below.

### **IV. EPA ENERGY STAR Partner's Responsibilities**

A. EPA ENERGY STAR Partner agrees to appoint a responsible representative of the company as liaison with EPA for the EPA ENERGY STAR Program and to notify EPA within one month of any change in liaison responsibility. (See Attachment)

B. Product Qualification for the EPA Energy Star® Logo

EPA ENERGY STAR Partner agrees to introduce one or more specific programmable thermostat models that meet the specifications outlined below.

#### **1. Programmable Thermostat Settings:**

Programmable thermostat shall have at least two different programming periods (for weekday and weekend programming) and at least four possible temperature settings (i.e., wake, day, evening, and sleep settings). Programmable thermostats settings shall be pre-programmed so the day and sleep time periods are at least 8 hours long. Partner shall ship programmable thermostats with setpoint temperatures and times as specified in Table 1 below. For a specific example of acceptable setpoint time and temperature settings, see Table 2 below.

Table 1. Programmable Thermostat Setpoint Temperatures

Setting	Setpoint Temperature (Heat)	Setpoint Temperature (Cool)
Wake	? 70°F	? 78°F
Day	setback at least 8°F	setup at least 7°F
Evening	? 70°F	? 78°F
Sleep	setback at least 8°F	setup at least 4°F

Table 2. Acceptable Setpoint Times and Temperature Settings

Setting	Time	Setpoint Temperature (Heat)	Setpoint Temperature (Cool)
Wake	6 a.m.	70°F	78°F
Day	8 a.m.	62°F	85°F
Evening	6 p.m.	70°F	78°F
Sleep	10 p.m.	62°F	82°F

2. Programmable thermostat shall be capable of maintaining room temperature swings within  $\pm 2^{\circ}\text{F}$  of the setpoint temperature.

3. Programmable thermostat shall be capable of cycling the heating/cooling equipment at the cycle rates required by all ENERGY STAR heating and cooling equipment. The cycle rate and heating/cooling anticipator setting shall be easy for installer to adjust and must remain at their installed setting even if there is an external power outage or battery failure that causes the programmable thermostat to be de-programmed.

4. Recovery Systems:

a. *Conventional Recovery*

All programmable thermostat models shall be equipped with a conventional recovery system as defined in section II.G.1, above.

b. *Heat Pump Recovery*

Programmable thermostat models marketed and sold for use with heat pump systems shall be equipped with a heat pump recovery system, as defined in section II.G.2, above.

c. *Pre-Comfort Recovery*

Programmable thermostat models marketed and sold for use with non-heat pump systems shall be equipped with a pre-comfort recovery system, as defined in section II.G.3, above.

5. Programmable thermostat shall have a hold feature that allows the user to temporarily override the program for an unspecified period (such as a vacation), without deleting the program. It is recommended that the programmable thermostat have more than one way to override the program. For instance a long term hold (vacation) and short term hold (override to the next setpoint) is recommended.

#### C. Customer Education:

##### 1. Product Literature:

Partner shall provide general information to users regarding the ENERGY STAR features of the programmable thermostat model. This information might include a description of the ENERGY STAR Program, a discussion of the savings associated with using the programmable thermostat, the benefits of a programmable thermostat and the method for changing the settings. Partner may determine the best manner through which to disseminate this general information to users. Examples of acceptable approaches include: user's manual, special brochures included in the shipping box, etc.

Partner shall include in product literature information on the subjects outlined in sections IV.B. Partner shall include clear statements addressing these subjects in the user's manual. In particular, there shall be clear instructions and packaging regarding whether the programmable thermostat is intended for use with a heat pump or conventional system, instructions for the installer to adjust the cycle rates, and instructions for the user to adjust the times and temperatures for the setpoint temperatures.

##### 2. Ease of Use:

Partner shall ensure that the customer may be able to change the settings on the programmable thermostat with little difficulty. The ease with which the customer can change the setback times and temperatures is of primary importance. Therefore, the programmable thermostat must include easy to follow instructions, and clearly defined settings on the programmable thermostat. In order to achieve this, Partner shall consider focus groups to analyze the ease of programming of the programmable thermostat, and other methods of determining the ease of use of the programmable thermostat.

##### 3. Logo Usage:

To help consumers become familiar with the ENERGY STAR programmable thermostat program, the Partner shall place the ENERGY STAR logo onto qualified products, where practical.<sup>3</sup> The Partner shall also strive to include the ENERGY STAR logo in brochures, manuals, and advertisements, etc. for qualified products.

D. Partner agrees to perform tests, as necessary, to determine which models comply. Based on the results of these tests, Partner shall self-certify those products that it determines are compliant with the specifications outlined above. Partner may submit information to EPA on compliant products on a voluntary basis.

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<sup>3</sup> The ENERGY STAR logo should be placed where it is visible to the homeowner when using or programming the programmable thermostat.

E. At EPA's request, Partner will attempt to locate customers who have profited from the program and are willing to share information about performance and savings, as well as locate employees who have contributed to its success. This customer- or employee- supplied information is to be without reference to or endorsement of specific Partner, specific products, or other supply sources.

F. EPA ENERGY STAR Partner agrees to provide information about the ENERGY STAR Program to all of its employees whose jobs are relevant to the development, marketing, sales, and service of ENERGY STAR models.

G. EPA ENERGY STAR Partner understands that participation in the EPA ENERGY STAR Program does not constitute EPA endorsement of EPA ENERGY STAR Partner or its products.

## **V. EPA's Responsibilities**

A. EPA agrees to designate a single liaison point for the EPA ENERGY STAR Program, and to notify Partner within one month of any change in liaison responsibilities. Please send signed MOU and other correspondence to this person. (See Attachment)

B. EPA agrees to accept the test data as submitted by Partner, whether it is self-determined or determined by an independent third party. EPA will not officially approve any individual test reports submitted by Partner. Therefore, Partner shall not include misleading statements in product literature that imply a product is approved or certified by the EPA, i.e., Partner shall not make claims such as "this programmable thermostat model is EPA approved," or "this programmable thermostat model is EPA certified." While this is a self-certifying process, EPA reserves the right to conduct tests on products bearing the EPA ENERGY STAR logo from either the open market or other available sources, or voluntarily received from Partner.

C. EPA agrees to make an effort to encourage consumer acceptance of programmable thermostat models introduced under this agreement and bearing the EPA ENERGY STAR logo.

D. EPA agrees to provide Partner with recognition for its public service in protecting the environment by performing analyses about the pollution prevented by corporate participants, and providing this and other program information to appropriate news media sources for publication. EPA agrees to provide materials to Partner from which Partner can create fact sheets, brochures and posters about the ENERGY STAR features of the programmable thermostat model.

E. EPA agrees to promote energy-efficient equipment and inform consumers about the EPA ENERGY STAR Program and EPA ENERGY STAR logo by writing articles and/or cooperating with the news media by sharing information, where appropriate.

F. EPA agrees to work with Partner independently and/or in conjunction with other Partners to coordinate the placement of advertisements to promote energy-efficient equipment, educate consumers about the EPA ENERGY STAR Program and logo, and provide Partner with due recognition for its public service in protecting the environment.

## **VI. Use of the EPA ENERGY STAR® Logo**

A. EPA agrees to loan to Partner, at no charge, materials from which Partner can create the ENERGY STAR logo.

B. It is the responsibility of the Partner to associate EPA, the EPA ENERGY STAR logo, and the EPA ENERGY STAR Program only with those specific programmable thermostat models that qualify under the terms and conditions of this MOU. As noted in section IV above, Partner may place logo directly on qualified programmable thermostat models, as well as on associated packaging, literature, and advertisements for qualified programmable thermostat models. See EPA's logo usage guidelines for more details and specific examples.

C. When the EPA ENERGY STAR logo is used, Partner agrees that it shall be accompanied by the following statement: "As an ENERGY STAR Partner, Thermostat Manufacturer has determined that this programmable thermostat model meets the ENERGY STAR guidelines for energy efficiency." When the ENERGY STAR logo is applied directly to the product, Partner may place this statement in the user's manual.

D. By signing this agreement, Partner agrees to abide by all the conditions spelled out in the accompanying logo use guidelines and to abide by any changes that are subsequently made to the guidelines upon being notified of changes by EPA.

## **VII. Conflict Resolution**

A. Each party agrees to assume good faith as a general principle for resolving conflicts under the EPA ENERGY STAR Program.

B. Both parties agree to informally notify each other if any problems or issues arise and to work together to provide maximum public confidence in the program.

### **C. Procedure for Addressing Noncompliant Products.**

1. If EPA receives information that one or more products certified by Partner as ENERGY STAR compliant may not meet all of the terms of this MOU, then EPA will immediately notify Partner and attempt to address and resolve the problem informally.

2. If these informal discussions do not produce a mutually agreeable resolution, EPA shall notify Partner in writing that Partner shall be terminated from the program unless it undertakes the specific corrective actions sought by EPA. Partner agrees to reply to EPA in writing within 20 business days of receiving EPA's letter. At that time, Partner shall agree to do one of the following: (a) undertake in a timely and effective manner, the corrective actions sought by EPA; or (b) voluntarily terminate this agreement. If Partner does not

respond to EPA's letter within 20 business days, or responds but does not agree to either (a) or (b), then this agreement is terminated.

D. If EPA ENERGY STAR Partner believes that EPA is not meeting all of its commitments, Partner agrees to formally notify EPA in writing. EPA agrees to respond in writing within 20 business days of receiving ENERGY STAR Partner's letter. At that time, EPA will do one of the following: (a) undertake the corrective actions sought by Partner, or (b) explain why such corrective actions can not be undertaken.

## **VIII. Freedom of Information Act and Confidential Business Information**

Both parties understand that information provided by Partner to EPA will be treated pursuant to EPA's public information regulations under 40 Code of Federal Regulations, Part Two.

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As representatives of EPA and Programmable Thermostats, we, the undersigned, do hereby execute this Memorandum of Understanding on the latter of the dates indicated below.

**For the U.S. Environmental Protection Agency (EPA):**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name: Paul Stolpman

Title: Director, Office of Atmospheric Programs

**For (Company Name):**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

## ATTACHMENT

Please complete and return with the signed Memorandum of Understanding.

### EPA Contact:

#### **Mailing Address:**

Peter Banwell  
Manager, ENERGY STAR® HVAC Program  
US EPA (MC: 6202N)  
401 M Street, SW  
Washington, DC 20460

#### **Overnight Delivery Address:**

Peter Banwell  
Manager, ENERGY STAR® HVAC Program  
US EPA (MC: 6202N)  
800 N. Capitol Street, Suite 580  
Washington, DC 20002  
Telephone: 202-564-9408  
FAX: 202-565-6674

#### **(Company Name) Contact:**

Primary Contact (to receive all administrative materials):

Name:  
Title:  
Company:  
Address:  
City, State, Zip:  
Telephone:  
Fax:  
E-mail:  
Location of US Headquarters:

Marketing/PR Contact (to receive all promotional/marketing materials and information):

Name:  
Title:  
Company:  
Address:  
City, State, Zip:  
Telephone:  
Fax:  
E-mail:

Switchboard Number or Sales Number (to be given to public for further information on all products):

Telephone Number:  
Fax:  
Internet URL: